PFAS Toxicity Assessments

Samantha Jones
NCEA Associate Director

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Defining the PFAS List for Consideration

- An extensive scoping effort was undertaken to prioritize PFAS for review.
- Effort was coordinated across EPA program and regional offices.
- Chemicals considered were those:
  - Included in UCMR3 monitoring (OW)
  - Commonly found at sites in multiple media (OLEM)
  - New chemicals of interest (OPPT)
  - Recommended by regions (OLEM cross-regional, regional science and technology liaisons, OW drinking water programs)
  - Found in AFFF
  - Recommended by analytical methods/exposure workgroup
  - Standards available
  - Representative of categories of PFAS (carboxylic acids, sulfonates, fluorotelomers, etc.)

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PFAS List

Category	Selected PFAS for Literature Search	Acronym
Perfluoro carboxylic acids	Perfluorododecanoic acid	PFDoA
	Perfluoroundecanoic acid	PFUnA
	Perfluorodecanoic acid	PFDA
	Perfluorononanoic acid	PFNA
	Perfluorooctanoic acid	PFOA
	Perfluoroheptanoic acid	PFHpA
	Perfluorohexanoic acid	PFHxA
	Perfluoropentanoic acid	PFPeA
	Perfluorobutyric acid	PFBA
Perfluoro sulfonates	Perfluorodecanesulfonate	PFDS
	Perfluorononanesulfonate	PFNS
	Perfluorooctanesulfonate	PFOS
	Perfluoroheptanesulfonate	PFHpS
	Perfluorohexanesulfonate	PFHxS
	Perfluoropentansulfonate	PFPeS
	Perfluorobutanesulfonate	PFBS
Perfluoro sulfonamide	Perfluorooctanesulfonamide	PFOSA
Fluorotelomer sulfonates	Fluorotelomer sulfonate 8:2	FtS 8:2
	Fluorotelomer sulfonate 6:2	FtS 6:2
Perfluoro sulfonamidoacetic acids	N-ethyl-N-((heptadecafluorooctyl)sulfonyl)glycine	NEtFOSAA
	N-(Heptadecafluorooctylsulfonyl)-N-methylglycine	NMeFOSAA
Fluorotelomer alcohols	Fluorotelomer alcohol 8:2	FtOH 8:2
	Fluorotelomer alcohol 6:2	FtOH 6:2
Perfluoro ether carboxylic acids	Perfluoro(2-methyl-3-oxahexanoic) acid	GenX
	4,8-dioxa-3H-perfluorononanoic acid	ADONA
Fluorotelomer phosphates	6:2 Fluorotelomer phosphate monoester	6:2 monoPAP
	6:2 Fluorotelomer phosphate diester	6:2 diPAP
	8:2 Fluorotelomer phosphate monoester	8:2 monoPAP
	8:2 Fluorotelomer phosphate diester	8:2 diPAP
	6:2/8:2 Fluorotelomer phosphate diester	6:2/8:2 diPAP
Fluorotelomer carboxylic acid	5:3 Polyfluorinated acid	5:3 acid

- Conducted comprehensive literature searches (July-August, 2017).
- Compilation of the available toxicological peer-reviewed literature related to human health toxicity.
- Made available on www.epa.gov/PFAS via HERO
- https://hero.epa.gov/hero/index.cfm/litbrowser/public/#PFAS

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Considerations for PFAS Selected

- Representatives from across EPA Programs and Regions developed a short list for toxicity assessment based on priority needs of EPA, Tribes, and States including:
  - OW: Unregulated Contaminated Monitoring Rule (UCMR)
  - OLEM: Found at sites, including private and federal facilities, and from various sources, including AFFF, chrome plating facilities, PFAS manufacturers, and industries that use PFAS, e.g., textiles and electronics.
  - OPPT: Significant number of new chemicals submitted to EPA are based on C6 and C4 chemistry. OPPT often evaluates risk for these compounds based on PFHxA and PFBS, which are the ultimate degradates for certain C6/C4 compounds.
- Included in literature search and demonstrated availability of in vivo/whole animal data that could be used to potentially derive toxicity values.
- Availability of analytical methods (standards and methods).
- Ongoing NTP research to be available in the near future.

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Deliberative Process / Ex. 5